Vocational Teacher's Inclination to Impart Values in Vocational Training: the Importance of Pedagogical-Didactical and Psychological Factors

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Abstract

The purpose of this paper was to present empirically tested model of the importance of vocational teachers' pedagogical-didactical and psychological factors for inclination to impart their value positions in vocational education. 346 vocational teachers from 27 vocational training institutions and colleges in Lithuania completed paper-pencil questionnaires. A correlation study was designed to determine the extent to which the pedagogical-didactical and psychological determinants are related to values education. The results of Structural Equation Modelling (SEM) indicated 7 significant factors on the inclination of vocational teachers to convey values to learners in vocational education and training. Teachers' efforts to provoke or cause emotions in students during didactical processes, as well as matching students' practical experience and open teaching strategies were identified as the most important pedagogical-didactical factors for teacher's inclination to impart values education. Teachers as pedagogical experts were more concerned with values education than were teachers as didactical or subject matter experts. Important psychological factors included vocational teachers' personality traits of openness to experience and conscientiousness as well as extrinsic social motivation that were significantly related to teacher's inclination towards values education. To our knowledge, this research is the first comprehensive attempt to evaluate the importance of pedagogical-didactical and psychological factors on the inclination of vocational teachers to convey values to learners in vocational education and training. In the future, longitudinal studies are needed to make causal inferences regarding the hypothesized relationships among the variables.

Keywords: values education, vocational teacher, vocational training, inclination to impart values, pedagogical-didactical factors, psychological factors.

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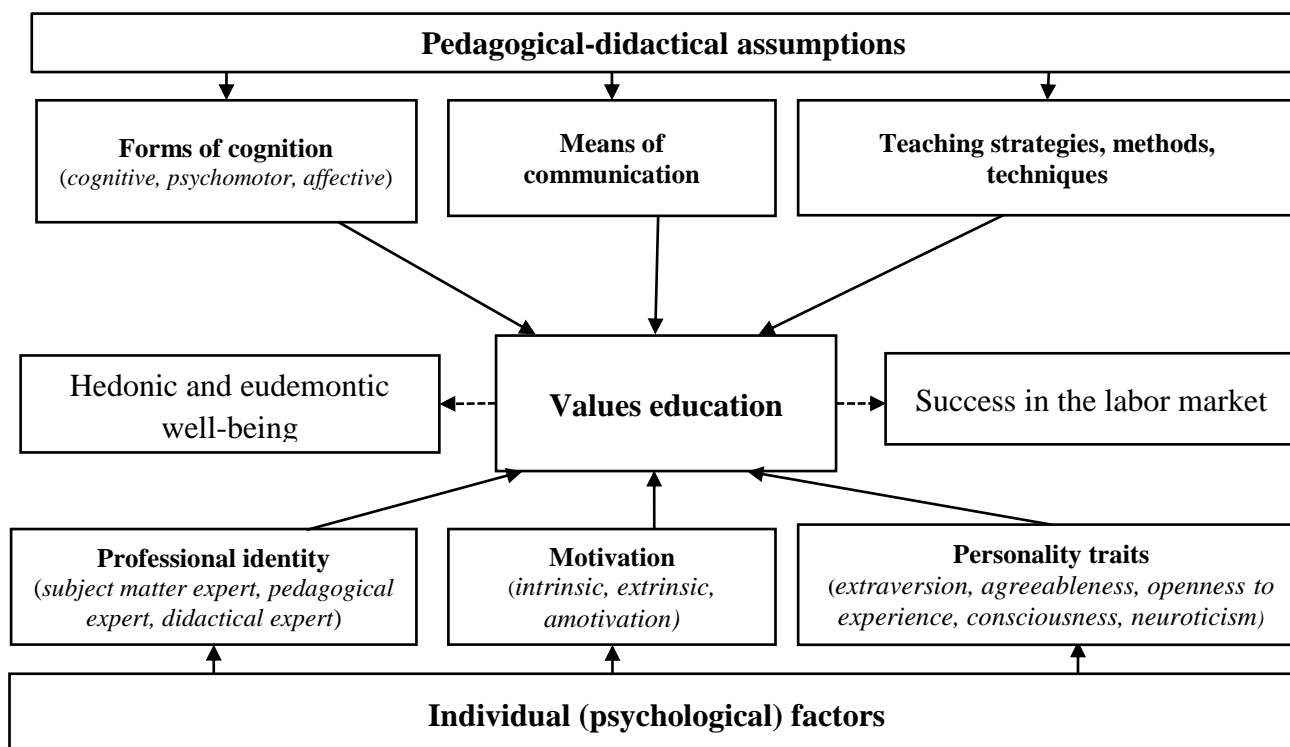
1. Introduction

Recent educational research supports the perception that values education has widespread and indispensable effects on student learning and well-being (Lovat, 2011) and facilitates the development of moral maturity and a holistic mindset (Gupta, 2015), student satisfaction within institution (Moosmayer, Siems, 2012), greater self-awareness, and improvement in academic diligence (Lovat et al., 2011). Research findings provide economic evidence of the positive effects of value-related teaching; i.e., as Moosmayer and Siems (2012) noticed "there are business-related reasons for influencing students' values" since students want to receive value-related training during their education (ibid: 258). Values education is especially important in the skilled trades, since the qualified workers are expected to exercise their professional knowledge and skills in a responsible manner; or, as Gupta perceived, "they need to be socially and morally competent in addition to being technically competent" (Gupta, 2015: 501). According to Turturean (2013), there are consequences not only in terms of how students experience their education and well-being but also in terms of their value as future productive members of the society to which they belong.

Values are expressed in everyday teaching practice. The teacher is concerned not only with knowledge transfer but also with how the student, affected by knowledge, becomes a moral human being. Teachers should play positive roles for students in the process of learning values. There has been a great deal of research in recent years concerning the attitudes of teachers towards values education (Katilmis, 2017; Iscan, 2015; Celikkaya, Filoglu, 2014; Tirri, 2011; Thornberg, 2008), as well as comparative studies examining teachers' perspectives on values and moral education in different countries (LePage et al., 2011; Thornberg, 2013; Thornberg, Oğuz, 2016).

Although values education is inevitably embedded in teachers' work (Thornberg, Oğuz, 2016), there has been very little research examining vocational teachers' inclinations to convey values while preparing young people for the job market. Previous studies investigated how social studies teachers define values and "values education" (Celikkaya, Filoglu, 2014; Katilmiş, 2017), how engineering teachers integrate values with professional engineering education (Gupta, 2015), how secondary school teachers view values and holistic pedagogy (Tirri, 2011), elementary and junior high school teachers' approaches to moral (LePage et al., 2011) and values education (Iscan, 2015) and first year student teachers' preferences on moral and citizenship goals in education (Thornberg, Oğuz, 2016). We focused – perhaps, for the first time – on the target group: teachers in vocational education and training centers and tried to view the phenomenon from another angle: what relationship exists among inclination to impart values and individual psychological as well as pedagogical-didactical factors. Examples may include professional identity, personality traits and motivation as well as pedagogical-didactical assumptions made by teachers in communication with students, forms of cognition and teaching strategies.

Therefore, the aim of this study is to identify pedagogical-didactical and psychological factors that are important for vocational teachers' inclination to impart their value positions in vocational education and training.

Figure 1 presents our conceptual model. The model includes two groups of antecedents for values education (pedagogical-didactical and psychological factors) and students' attitudes and behaviour together with well-being and success in the labour market as outcomes. Noteworthy, the top boxes and the bottom boxes are at the teacher level, and the middle ones at the student level. Based on our research aim, our empirical research will focus only on the antecedents of values education.

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│                  Pedagogical-didactical assumptions                       │
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┌──────────────────┐   ┌──────────────────┐   ┌──────────────────────────┐
│ Forms of cognition│   │    Means of      │   │ Teaching strategies,     │
│ (cognitive,       │   │  communication   │   │ methods, techniques      │
│ psychomotor,      │   │                  │   │                          │
│ affective)        │   │                  │   │                          │
└──────────────────┘   └──────────────────┘   └──────────────────────────┘

┌──────────────────┐       ┌──────────────────┐       ┌──────────────────────┐
│ Hedonic and      │ ◄- - -│ Values education │- - -► │ Success in the labor │
│ eudemontic       │       │                  │       │ market               │
│ well-being       │       │                  │       │                      │
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│ Professional identity │  │   Motivation     │  │ Personality traits           │
│ (subject matter       │  │ (intrinsic,      │  │ (extraversion, agreeableness,│
│ expert, pedagogical   │  │ extrinsic,       │  │ openness to experience,      │
│ expert, didactical    │  │ amotivation)     │  │ consciousness, neuroticism)  │
│ expert)               │  │                  │  │                              │
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│                   Individual (psychological) factors                      │
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Fig. 1. Theoretical model of values education antecedents and outcomes.
Notes: The straight lines represent the relationships between the factors measured in this study. The dotted lines represent possible relationships between factors not measured in this study. In this study, values education is considered as teacher's inclination to impart values.

Pedagogical-didactical assumptions. Values education is at the core of the educational process and curricula (Iscan, 2015) since, according to Tirri (2011), school pedagogy consists of three main components, namely, values and worldviews, field-invariant pedagogical components and field-dependent pedagogical components. Within the teaching and learning process, vocational teachers develop their own strategies for teaching and organizing the process of cognition (knowledge) for vocational training objects, and, at the same, participate in it. The success of a teacher often does not depend on official documents, programmes, or detailed instructions, but rather depends on how he or she creates an alternative working environment. In other words, the teacher chooses the material and the best tools and methods of teaching, responds to conditions, and makes value judgements in his choices. Duoblienė (2017) summarized empirical research on teacher performance in different countries and set out that in developing alternative micro-settings (environments), teachers perpetuate flawed standardization and bureaucratic politics based on "managerialism" (ibid., 23). Hence, in our pedagogical-didactical assumptions, we presume that vocational teachers in the course of pedagogical interactions develop individual didactical systems. These systems comprise the following aspects of the curriculum: the means of pedagogical communication, the forms of cognition in the profession, and methods and techniques used.

The forms of cognition in the profession include the cognitive, psychomotor, and affective domains of learning (Spurlin et al., 2008; Vanasupa et al., 2007; Salimet al., 2013). The cognitive domain of learning is concerned with knowledge and understanding and encompasses the entire "content" of the professional field. The psychomotor domain focuses on manual tasks requiring physical activity and the use and manipulation of objects (Merrit, 2008). The affective domain represents an individual's attitudes, beliefs, emotions and feelings (Bott, 1996). The parts of this trichotomy cannot be isolated from one another because almost all learning activities involve more than one domain (Bott, 1996; Merrit, 2008). In the context of individual didactical systems, the three domains in vocational pedagogy engender what Setiawan (2016, 403) calls "signature pedagogy": "habits of the mind" refers to the ways in which teachers and students think, "habits of

the hand" refers to the practical-habitual activities done by teachers and students, and "habits of the heart" refers to teachers' and students' attitudes.

Means of communication refers to the multi-faceted, professional communication of teachers with students in the learning process, which involves interaction, understanding and cooperation. Pedagogical communication creates the pedagogical and psychological conditions that ensure effective involvement in the process of cognition in the profession as well as determining teaching methods and educational influence, which manifest themselves in the expectations and behavioural requirements for students. Two opposing styles of communication with students can be distinguished. Some educators are open; they foster friendly relationships, respect, and trust between teachers and pupils and seek to create a good emotional environment that motivates students to perform activities and allows them to better understand one another's values. Others expect the obedience of the students; and knowledge based on textbooks and "learned by heart" is set against individual perceptions and experience. Electronic communication technology, in its own way, "facilitates" the pursuit of vocational learning goals by limiting the interaction between teachers and students. Of course, this communication style often creates tension and uncertainty.

The approaches to teaching affect teacher's training strategies and influence all aspects of the job, including methods and techniques of instruction. Over the last decade, changes in pedagogical approaches are underway in vocational education and training (Daukilas et al., 2017). The dominant traditional teaching methods, which include the teacher's role as content creator, transferring knowledge through traditional lectures using reproductive techniques (such as demonstration, presentation, photocopying, and recording) to be passively consumed by learners, poorly meet the needs of students. Research indicates that that active learners' involvement in the learning process significantly improves knowledge retention and the ability to apply that knowledge (Piercy et al., 2012). In other words, students do not simply need to learn about an established body of knowledge, but also, how to apply practically new ideas to 'manage the situation'. Therefore, reality is seen as personally constructed and determined by personal experience, i.e., each learner constructs means by which new knowledge is both created and integrated with existing knowledge. Typical teaching environments include interactive learning modes such as lectures-theatres, science laboratories, workshops, problem-based learning, simulation, and case studies. The teacher plays the role of guide and equipment supplier; he or she leads students through experimentation, project-based learning and simulation (Güneş et al., 2011).

We set up two hypotheses to test how pedagogical-didactical factors are related to values education:

Hypothesis 1. *An affective domain of cognition supported by open, friendly styles of communication leads to inclination to impart values in vocational training.*

Hypothesis 2. *Teachers who use open teaching strategies reflecting learners experience are more inclined towards values education.*

Professional identity. There are various theoretical approaches to teacher identity. Professional identity is often interpreted as a person's perception of who he or she is and who he or she would like to become (Beijaard et al., 2000); it also includes the various purposes teachers attach to themselves and the purposes attributed by others (Day et al., 2006; Marcelo, 2009). Some authors have defined identity as a complex and multifaceted construct that includes many roles (Day, Kington, 2008; Chong, 2011; Komba et al., 2013; Marcelo, 2009) and a permanent integration of personal and professional roles (Akkerman, Meijer, 2011; Ibarra, 1999). A teacher's professional identity includes sufficiently stable features, teacher-related self-efficacy (personal beliefs about his or her ability to behave in complicated and critical situations), values and teaching philosophy, and motivations and experiences based on competence and preparation (Yamin-Ali, Pooma, 2012; Ibarra, 1999). Most contemporary approaches, however, agree that identity is constructed in a social context and that, rather than being stable and fixed, it is shifting and dynamic (Chong, 2011; Chong, Low, 2009; Komba et al., 2013; Marcelo, 2009; Olsen, 2015).

In our study, we have approached identity from a professional mastery (expertise) point of view, which describes what a teacher needs to know and be able to do (Beijaard et al., 2000; Komba et al., 2013) and has clear connections to pedagogical-didactical assumptions. The teacher as *a subject matter expert* is characterized by a full understanding of the subject area. The teacher, who possesses a specific, professional knowledge base, conveys his or her knowledge and skills to students by developing effective tasks, explaining things at an understandable level, and adequately

diagnosing students' misunderstandings and misconceptions (Beijaard et al., 2000: 751). However, teaching is much more than the transmission of knowledge. The concept of a teacher as *a pedagogical expert* concerns the teacher's involvement, engagement, and communication with students. According to McInerney (2013), positive pedagogical relationships with students and a good emotional atmosphere in the classroom are prerequisites for effective teaching and learning. This is relevant to teachers' conceptions of their personal and professional roles (the teacher as classroom manager, leader, etc.) as well as to moral and ethical concerns in their interactions and relationships with students. The concept of the teacher as *a didactical expert* includes models of teaching, i.e., the planning, execution, and evaluation of lessons (ibid, 752-753). The main shift of the didactical dimension is from traditional teacher-centred conceptions of teaching to more student-centered ones with a greater emphasis on learning than teaching. This shift forces teachers to look for appropriate teaching strategies, methods and techniques and has far-reaching consequences for teachers' roles (guiding, facilitating, coaching, etc.) and their perceptions of their professional identities.

All these characteristics are strongly interwoven, but in scientific literature more attention is paid to the pedagogical dimension. Recent research by Choy, Wong, Chong and Lim (2014) reveals the importance of pedagogical expertise in terms of better student outcomes, better management of social and cultural diversity, better classroom management, and better demonstrations of helpfulness and attention. On the other hand, as Day and Kington (2008) found, "teacher identities are neither intrinsically stable nor intrinsically fragmented, but can be more or less stable and more or less fragmented at different times and in different ways based on the interaction of a number of personal, professional and situational factors". One of these factors is personality.

Personality traits. The development of professional identity is closely related to personality traits (Lounsbury et al., 2007; Göncz, 2017; Hirschi, 2012). Personality traits are a person's stable qualities or characteristics and determine his or her everyday practices and behaviour (Mount et al., 2005). They affect professional interests and are relevant to adults choosing careers (Guranda, 2014). Thus, many studies have emphasized the influence of personality traits on self-efficacy in career decision making (Ambiel, Noronha, 2016; Pandey, Kavitha, 2015), engagement in work (Inceoglu, Warr, 2011; Woods, Sofat, 2013), career satisfaction (Lounsbury et al., 2004), work performance (Rusbadrol et al., 2015), and teaching effectiveness (Buela, Mamman, 2015; Fatemi et al., 2016; Klassen, Tze, 2014). In this study, we are interested in the relationship between values education and personality traits, i.e., how stable internal personality traits are related to teacher's inclination to impart values. For this, we applied the Big Five model (John et al., 2008), which nowadays is one of the most significant theories explaining the structure of personality. The model is characterized by its empirical support, practical significance and intercultural validity. The Big Five model of personality covers five broad domains that define human personality: extraversion, agreeableness, conscientiousness, openness to experience and neuroticism.

A few studies (Alghamdi et al., 2017; Iruloh, Ukaegbu, 2015) showed a significant relationship between teachers' emotional intelligence (EI) and Big Five personality traits. Three personality traits, namely, extraversion, agreeableness, and openness to experience, emerged as significant predictors of EI (Alghamdi et al., 2017). Pandey and Kavitha (2015) analyzed the relationship between teacher personality traits and self-efficacy. The results of their research revealed that extraversion, agreeableness, openness to experience and conscientiousness are positively related to teacher self-efficacy; on the other hand, a significant negative correlation was found between self-efficacy and neuroticism. A study by Rusbadrol and colleagues (2015) indicated a positive association between personality traits and teacher performance. Their findings revealed that openness to experience and agreeableness are positively related to job performance; on the other hand, there is a negative association between neuroticism and job performance. In addition, personality traits and work commitment were significant factors influencing teachers' job performance.

Work motivation. Individual differences affect vocational teachers' job characteristics and motivation. Work motivation consists of a set of forces that originate both within as well as beyond an individual to initiate work-related behaviour and determine its form, direction, intensity, and duration (Latham, Pinder, 2005).

There are several motivational theories that explain the extrinsic and intrinsic motivation. To describe the work motivation of vocational teachers, we have chosen self-determination theory,

which has received widespread attention in education and other fields (Gagne, Deci, 2005). This theory conceptualizes the main types of motivation and proposes that individuals experience these types of motivation to varying degrees. Intrinsic motivation occurs when an individual participates in an activity for the enjoy ability inherent to the activity itself. Intrinsic motivation, also called self-motivation (Wang, Hou, 2015), promotes activities related to personal self-realization, providing pleasure and a sense of self-satisfaction (Levin et al., 2012). Extrinsic motivation occurs when behaviours are undertaken to avoid negative self-feelings such as shame or to attain positive self-feelings such as pride (Howard et al., 2016). The current conceptualization of work motivation suggests that extrinsic regulation is best described through two components, namely, extrinsic-social and extrinsic-material (Gagne et al., 2015). Extrinsic-social regulation is characterized by the desire to gain approval or respect from others or to avoid criticism, whereas extrinsic-material regulation focuses on material rewards and keeping one's job. This type of motivation is also called controlled motivation (Wang, Hou, 2015). Amotivation is the absence of any desire to exert effort. Amotivated individuals are likely to feel detached from their actions and may feel a lack of control over their present situation or behaviour; therefore, they invest little time and energy towards their behaviour. This state was shown to be associated with a wide range of negative workplace outcomes, including decreased vitality, job satisfaction, affective commitment, adaptivity, proactivity, and job effort, as well as greater emotional exhaustion, burnout, and turnover intention (Gagne et al., 2015; Howard et al., 2016).

Ryan and Deci (2000), along with Gagne et al. (2015), provide four different types of extrinsic motivation based on the degree of personal autonomy. *Extrinsic regulation* is behaviour performed to satisfy an external demand or obtain an externally imposed reward (e.g., to conform to teacher qualification standards), *material regulation* is identified with expectations of financial reward (e.g. seeking higher qualification for a better paid position), *introjected regulation* describes a type of intrinsic regulation based on the avoidance guilt and anxiety or the desire for ego-enhancements and pride (e.g., to be responsible for students' learning), and *identified regulation* occurs when extrinsic regulations have been fully assimilated into the self and become congruent with one's other values and needs. Identified forms of motivation share many features of intrinsic motivation, but they differ from intrinsic motivation because the activity is not carried out for internal satisfaction but has an instrumental value (Gagne et al., 2015). Moreover, psychological needs such as competence, autonomy, and relatedness support intrinsic motivation and facilitate the internalization and integration of extrinsically motivated tasks (Ryan, Deci, 2000).

Following literature review, we hypothesize:

Hypothesis 3. *Teachers who identify themselves more strongly as pedagogical experts are more concerned with values education than are teachers as subject matter and didactical experts.*

Hypothesis 4. *Extraversion, openness to experience, conscientiousness and agreeableness are positively related to teacher's inclination to impart values for learners, while neuroticism is negatively related.*

Hypothesis 5. *Teacher's intrinsic motivation is more strongly related to inclination to impart values for learners than teacher's extrinsic motivation.*

2. Methods

Participants. There are 73 state and private vocational education and training institutions with 2880 vocational teachers in Lithuania. In this study participated 346 vocational teachers (or 12 % of the population) working in 27 (or 37 % from all VET institutions) vocational training institutions and colleges. A probabilistic cluster sampling of 27 vocational schools was selected to provide a cross-section of geographical and institutional diversity. Within these institutions, teachers were randomly selected using random number tables. Sample characteristics and comparison with the population are given in Table 1.

The teachers' characteristics more or less corresponded to the overall ratio for the country. Thus, the surveyed vocational teachers seem to represent an average vocational training institution in Lithuania.

Table 1. Sample characteristics

Characteristics	Sample		Population*	
	n	%	N	%
Gender				
Male	93	27.6	893	31
Female	244	72.4	1987	69
Total	*337*	*100*	*2880*	*100*
Age				
18-29	18	**5.2**	189	6.6
30-39	60	17.5	456	15.8
40-49	73	21.3	611	21.2
50-59	132	**38.5**	1035	35.9
60 and more	60	**17.5**	589	20.5
Total	*343*	*100*	*2880*	*100*
Education				
Higher education	275	82.6	2409	83.6
College education	55	**16.5**	353	12.3
Secondary/vocational	3	**0.9**	118	4.1
Total	*333*	*100*	*2880*	*100*
Qualification (position)				
Without qualification	4	**1.2**	680	23.6
Teacher	72	**20.8**	337	11.7
Senior teacher	164	**47.4**	1276	44.3
Teacher-methodologist	97	**28.0**	551	19.1
Teacher-expert	9	**2.6**	36	1.3
Total	*342*	*100*	*2880*	*100*
Teaching subjects				
General subject teachers	66	**19.9**	913	31.7
Vocational subject teachers	241	**74.4**	1967	68.3
General and vocational subject teacher	19	**5.7**		
Total	*332*	*100*	*2880*	*100*
Career experience				
0-2 years	19	5.5		
3-5 years	23	6.7		
6-10 years	48	14.0		
11-15 years	34	9.9		
16-20 years	45	13.1		
More than 20 years	175	50.9		
Total	*344*	*100*		

*Source: Lithuanian Education in Figures, 2016. Vocational Training.
Note: the sample data that significantly differ from the general population is marked in bold.

Procedure. The vocational teachers completed paper-based self-administered questionnaires. 27 vocational training institutions and colleges were selected from 10 Lithuanian regions using criteria that ensured representation of schools by type (vocational schools and vocational training centers), size (small, medium, and large according to the number of students), and geographic location (rural area, small town, or city). The number of selected schools accounts for one third of all currently operating state and non-state vocational schools. The questionnaires were sent with self-addressed stamped envelopes to school administrations with requests that they be distributed to teachers in that school. All participants were provided with written information about the nature and purpose of the research. Voluntary participation and confidentiality were guaranteed. The questionnaires were returned to us in sealed envelopes. The response rate was 70.6 %.

The research data were processed using SPSS 22.0. Descriptive statistics (mean scores, standard deviations and correlations) were used to represent the main variables of the study. To test the theoretical model, Structural Equation Modelling (SEM) was employed using AMOS 22.0.

Measures. The instrumentation of the research comprised several parts, including individual (psychological) factors, pedagogical-didactical factors, a focus on inclination towards values education and socio-demographic questions. Psychological factors included teachers' professional identity, motivation and personality traits.

Professional identity. Vocational teachers' professional identity was assessed with the Teachers' Professional Identity Questionnaire (Beijaard et al., 2000). This instrument consists of 18 items along three dimensions: subject matter expert, pedagogical expert, and didactical expert. The instrument was translated (Dutch-Lithuanian and Lithuanian-Dutch) and used with permission from the author. Teachers were asked to evaluate the extent to which they agreed with the items on a four-point scale ranging from 1 *(disagreement)* to 4 *(complete agreement)*. Examples of items include "The subject I studied determined my decision to become a teacher" (subject matter expert), "In my lessons, I pay a great deal of attention to varied learning activities" (didactical expert), and "As a teacher, I serve as a model for the way students should interact" (pedagogical expert).

According to Beijaard and colleagues' (2000) approach to teachers' professional identity, a didactical expert is a teacher who bases his or her work on knowledge and skills regarding the planning, execution, and evaluation of teaching and learning processes (in this study, Cronbach alpha is .700). A pedagogical expert is a teacher who bases his or her work on knowledge and skills that support students' social, emotional, and moral development (α = .692). A subject matter expert is a teacher who bases his or her work on subject matter knowledge and skills (α = .637).

Personality traits. Vocational teachers' personality traits were assessed using the Big Five Inventory (BFI; Benet-Martinez, John, 1998; John et al., 1991, John et al., 2008). It is a self-reported inventory designed to measure five personality traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The scholars from Vytautas Magnus University (Department of Psychology) approved translation of the questionnaire into Lithuanian. The questionnaire comprises 44 short phrases based on trait adjectives that respondents were asked to evaluate on a 5-point Likert scale from 1 *(strongly disagree)* to 5 *(strongly agree)*.

The trait of extraversion includes an inclination to sociability, activeness, talkativeness, and optimism (in this study, Cronbach alpha is .671). Conscientiousness includes planning, organizing, setting tasks, self-discipline and the need for achievement (α =. 739). Agreeableness is related to altruism, attempts to help others, and the ability to understand and sympathize with others (α = .584). Neuroticism is defined as a tendency to experience unpleasant emotions: fear, sadness, anger, discontent, guilt, etc. (α = .676). Openness to experience covers vivid imagination, attention to inner experiences, aesthetic sensitivity, the desire for intellectual knowledge, and interest in the inner and outer worlds (α = .558).

Motivation. Vocational teachers' daily motivation for their work was assessed with the Multidimensional Work Motivation Scale (MWMS; Gagne et al., 2015). With permission from the author, a double translation of the questionnaire (English-Lithuanian, Lithuanian-English) was carried out and aligned with the original. The questionnaire consists of 19 items. The respondents were asked to evaluate answers to the question "Why do you or would you put efforts into your current job?" For each item, teachers rated the extent to which they agreed with it on a 7-point Likert scale ranging from 1 *(not at all)* to 7 *(completely)*. The questionnaire consists of 6 scales. Amotivation is defined as the absence of motivation towards an activity (3 items, e.g., "…I don't, because I really feel that I'm wasting my time at work", Cronbach alpha is .870 in this study). Extrinsic regulation refers to doing an activity to obtain rewards or avoid punishments administered by others. It includes extrinsic social regulation (3 items, e.g., "…to get others' approval (supervisor, colleagues, family, students, etc.)", α = .880) and extrinsic material regulation (3 items, e.g., "…because others (employer, supervisor, etc.) will reward me financially only if I put enough effort into my job", α = .810). Introjected regulation refers to regulation of behaviour that stems from internal forces, such as ego-involvement, shame, and guilt (4 items, e.g., "…because I have to prove to myself that I can", α = .823). Identified regulation refers to doing an activity because one identifies with its value or meaning and accepts it as one's own; this form of internalization is volitional (3 items, e.g., "…because putting effort into this job aligns with my

personal values", α = .878). Finally, intrinsic motivation is defined as doing an activity because it is interesting and inherently enjoyable (3 items, e.g., "…because the work I do is interesting", α = .918).

Since no measures of pedagogical-didactical factors existed, we developed questions based on a literature review. These items were piloted with a convenience sample of 10 vocational teachers. Minor adaptations have been made.

To measure teacher's *inclination to impart values* in vocational education, we used the item "I try to show my value positions when teaching my subject". The developed items for *communication with students* reflect direct communication ("I am better at direct communication with students") and positive emotional climate ("I try to create a good emotional environment in lectures through various means"). We identified and measured three *forms of cognition* used in the educational process: educating thinking, causing emotions, and matching students' practical experience. Items were also added about *teaching methods*, both interactive (fostering reflection and assessment of the material) and experiential. For each item of pedagogical-didactical factors, vocational teachers rated the extent to which they agreed with each item on a 5-point Likert scale ranging from 1 *(do not use at all)* to 5 *(often use)*.

Demographic variables. The questionnaire included socio-demographic questions about teachers' age, gender, education, qualification (position) and work experience.

3. Results

First, it was analyzed whether the variables (pedagogical-didactic and psychological factors) differ according to the socio-demographic characteristics of the respondents (gender, age and overall pedagogical experience). No differences were found. The descriptive statistics and correlation matrix for the *pedagogical-didactical components* and inclination to impart values in vocational education are presented in Table 2.

Table 2. Pedagogical-didactical components: descriptive statistics and correlations with teachers' inclination to impart values (N = 346)

Categories	Components	Mean	SD	Intention to impart values
Communication	Direct communication	4.50	.68	.182**
	Positive emotional climate	4.47	.66	.207**
Forms of cognition	Educating thinking	4.38	.68	.245**
	Causing emotions	3.54	1.01	.337**
	Matching learners' practical experience	4.16	.81	.278**
Methods	Interactive	4.18	.82	.205**
	Experiential training	3.96	.83	.135**

Notes: **correlation is significant at the .01 level

The results reveal that all items scores are very high and are significantly related to intention to impart values. It can be assumed, that vocational teachers often use direct communication with students and try to ensure a positive emotional climate. In terms of the forms of cognition, educators tend to use educating thinking and matching the learners' practical experience more than causing emotions. Finally, vocational teachers use both interactive and experiential training methods quite often.

Table 3 presents the mean scores, standard deviations and correlations for the *psychological components* of the research. In terms of vocational teachers' professional identity, the results reveal that the most expressed professional role of vocational teachers is that of subject matter expert. In addition, the most expressed personality traits of vocational teachers are conscientiousness and agreeableness. Although the personality trait of neuroticism is expressed

least, its level of expression almost reaches the midpoint of the scale (which is 3). The analysis also revealed that vocational teachers most commonly exhibited intrinsic and identified motivation.

Table 3. Psychological components: descriptive statistics and correlations with teachers' inclination to impart values (N = 346)

Categories	Components	Mean	SD	Intention to impart values
Professional identity	Pedagogical expert	3.34	.41	.302**
	Didactical expert	3.31	.41	.142**
	Subject matter expert	3.41	.41	.200**
Personality traits	Extraversion	3.59	.52	.080
	Agreeableness	3.88	.49	.093
	Conscientiousness	3.90	.57	.184**
	Neuroticism	2.57	.61	.009
	Openness to experience	3.46	.43	.241**
Motivation	Intrinsic	5.71	1.16	.094
	Identified	5.79	1.10	.176**
	Introjected	4.76	1.53	.151**
	Extrinsic material	3.65	1.57	.058
	Extrinsic social	3.89	1.72	.193**
	Amotivation	2.06	1.44	-.012

Notes: **correlation is significant at the .01

In order to test the part of the theoretical model of this study and to identify factors that are important for the values education provided by the vocational teachers to their students, Structural Equation Modelling (SEM) was employed. At first, all paths to value education from the Figure 1 were included in the model, and then dropping the ones that were not significant. The final model is presented in Figure 2.
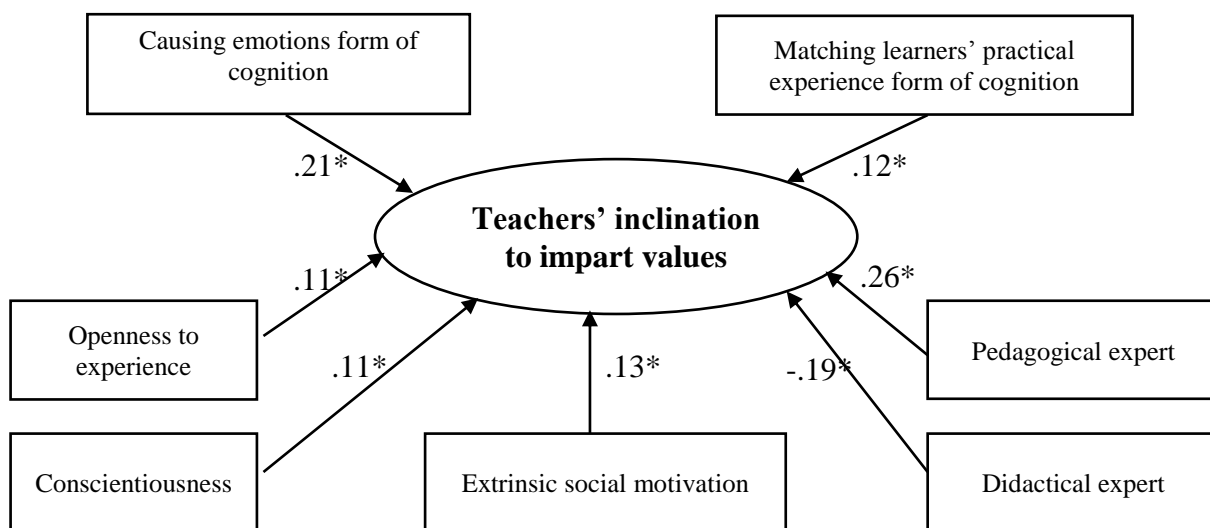
Fig. 2. Empirical model of pedagogical and psychological antecedents of teachers' inclination to impart values in vocational education
Notes: single-sided arrows and numbers adjacent to them – standardized regression weights (β), * significance at the .01 p < .05.

The resulting SEM model fit indices indicate that the hypothesized theoretical model fits the data: χ² = 13.93, p < .05, RMSEA = .064, CFI = .985, and GFI = .992. The results indicate that vocational teachers' attitudes regarding causing emotions (β = .211, p < .01) and matching learners' practical experience towards (β = .123, p < .01) significantly predict teacher's inclination to impart values for students. In addition, vocational teachers' openness to experience (β = .111, p < .01), conscientiousness (β = .113, p < .01), and extrinsic social motivation (β = .132, p < .01), as well as higher expressed pedagogical (β = .263, p < .01) and less expressed didactical (β = -.191, p < .01) professional roles, have significant predictive value for teacher's inclination towards values education in vocational training.

The findings of this study attracted attention of the researchers to the role of pedagogical-didactical and psychological factors that acts as antecedents of teacher's inclination to impart values for students in vocational training. The hypothetical model of relationships explained 22 % of vocational teacher's inclination towards values education.

4. Discussion
In this study, we examined the roles of various pedagogical-didactical and psychological factors on vocational teachers' inclination to impart values in the course of vocational education and training. In this study, we assumed that communication, forms of cognition and pedagogical assumptions are important pedagogical-didactical factors that may influence values education. Teachers' efforts to provoke or cause emotions in students during didactical processes, as well as matching students' practical experience, were identified as the most important pedagogical-didactical factors for teacher's inclination to impart values education in vocational training. We can assume that tendency to impart values is inseparable from the affective domain, which includes students' attitudes, beliefs, emotions and feelings (Bott, 1996). Thus, our first hypothesis was confirmed: the affective domain of cognition, when supported by open, friendly styles of communication, is related to teachers' inclination to impart values in vocational training.

The results also confirmed the second hypothesis of this study, which claims that teachers who use open teaching strategies are more inclined towards values education. It appears that interactive learning environment and teacher's role as an expert guide (Chaitanya, 2017) that leads students to gain experience through experimentation and simulation promotes tendency to impart values for students. Summing up the results, intention to impart values could be an explanatory variable alongside intention to cause emotions or to match learners' practical experience.

Our results also supported the third hypothesis, which states that teachers as pedagogical experts, compared to other professional roles, are more concerned with inclination towards values education. Although the most commonly expressed professional role of teachers is that of subject matter expert (which is consistent with the fact that the main function of vocational teachers is to teach a profession involving knowledge and skills), the pedagogical expert's professional role is important for teachers' inclination to impart values in vocational training. The pedagogical component includes the teachers' involvement, engagement, and communication with students along with their support of students' social, emotional and moral development (Beijaard et al., 2000). This result is consistent with the results of other studies that confirm the importance of pedagogical expertise (Choy et al., 2014; McInerney, 2013; Beijaard et al., 2000): good pedagogical relationships with students and demonstrations of helpfulness and attention lead to a positive emotional atmosphere, which results in effective teaching and learning.

In contrast to the results of Beijaard et al. (2000), this study revealed that the role of didactical expert can be a barrier to values education since didactics and values may sometimes conflict. For example, depending on the needs and experience of learners, values education may require modifying the plan, implementation or even the teaching model of the lesson provided. A teacher with a typical didactic role can experience difficulties with shifting and adapting.

The fourth hypothesis of this study was only partially confirmed. Only the personality traits of conscientiousness and openness to experience are significantly related to teacher's inclination towards values education. Other studies have revealed these personality traits as some of the most important in teachers' work (Alghamdi et al., 2017; Pandey, Kavitha, 2015; Rusbadrol et al., 2015). This means that teachers' ability to convey the values of their profession is related with their tendency to plan, organize, setting tasks, and self-discipline, as well as seeking for achievement related to vivid imagination, attention and interest in the inner and outer worlds.

The fifth hypothesis of this study stated that teachers' intrinsic motivation is more strongly related to inclination to impart values for learners than extrinsic motivation. Although the results revealed that, among vocational teachers, the two highest forms of motivation are dominant intrinsic and identified, the inclination towards values education itself is provided by extrinsic social motivation. This means that most teachers work because their job is interesting and enjoyable in itself (Gagne et al., 2015). However, in terms of conveying values to students, extrinsic social motivation is more significant. This means that values education is more closely related to the teacher's orientation towards people than to self-realization. If the teacher's social interest is strong, if the teacher perceives respect and support from others (e.g., colleagues, family, students, manager), he or she will be motivated to convey his or her value positions during the educational process. These results can be interpreted that teachers with a general tendency toward relating to students also include values education in that tendency. Thus, the last hypothesis has not been confirmed, but the results are worthy of attention.

Finally, our empirically tested model confirmed the theoretical model (that part of the model which considers paths of teachers' psychological and pedagogical-didactical factors and the inclination to impart values). In regard to previous research on values education, this study provides evidence of relation between teacher's inclination towards values education and pedagogical-didactical as well as psychological factors. We hope that our results will add more detail to previous research on values education in different aspects of the field.

5. Conclusion

This study, like all studies, has some limitations. First, teachers filled out self-administered questionnaires. For similar research in the future, it would make sense to include more objective methods, such as collecting data about teachers' inclination to convey values in the teaching process from the perspective of other sources (e.g., their students). Furthermore, it is recommended that social desirability be controlled: in responding to the questionnaire, teachers could present themselves as better than they actually were (due to high social interest). For this reason, the results should be evaluated critically, and future research is needed. Second, in this study, our findings are limited because we developed our own instrument to measure pedagogical-didactical factors as well as one item to measure teachers' inclination to impart values, because there are other important facets of values education that might be taken into account. While our measures are appropriate and suitable, the items developed should be reconsidered, refined and supplemented. Third, the correlative nature of the study prohibits causal inferences. Therefore, the results of this study must be interpreted with these limitations in mind. In the future, longitudinal studies are needed to make causal inferences regarding the hypothesized relationships among the variables. This would lead to solve the issue of competing explanations, e.g. that there is a common cause for teacher characteristics and values education. Also, in further research, teaching strategies should be explored, refined and specified more carefully in terms of transferring values to youth. This is an extremely delicate and rarely identified field of investigation. According to Thornberg (2008), values education is an "unreflective practice" which is "partly or mostly unconsciously performed", which means it is necessary to develop a valid research tool for measurement. We hope this study will inspire further research and instrument development in this area.

Finally, and most importantly, in this study we focused on the pedagogical-didactical assumptions and psychological characteristics of vocational teachers and did not examine the possible outcomes of values education in terms of successful career paths and well-being for students. Different approaches and more rigorous measures are needed to explore the impact of values education on students' later lives.

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